

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Investigation Into
Implementation of Assembly Bill 970 Regarding
the Identification of Electric Transmission and
Distribution Constraints, Actions to Resolve
Those Constraints, and Related Matters Affecting
the Reliability of Electric Supply.

Investigation 00-11-001
(Filed November 2, 2000)

**ADMINISTRATIVE LAW JUDGE'S RULING
CLARIFYING PURPOSE OF TRANSMISSION COST STUDIES,
ADDRESSING SCOPE OF WORK FOR RENEWABLES
TRANSMISSION STUDY, AND RELATED ISSUES**

Purpose of Transmission Cost Studies

In my ruling dated January 29, 2003, I directed Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE) and San Diego Gas & Electric Company (SDG&E), collectively referred to as “the utilities,” to issue a general solicitation letter to industry participants, including the service list in this proceeding. The purpose of the solicitation was to “afford developers the opportunity to fund transmission conceptual (including cost) studies for the projects that they are interested in developing to address the renewables goals set forth in SB 1078.”¹ The utilities sent out letters consistent with this direction, and identified several study options for developers, depending on the status of

¹ January 29, 2003 Administrative Law Judge's Ruling and Notice of Evidentiary Hearings on Techachapi Transmission Project (January 2003 Ruling), p. 8.

the developer's project, e.g., whether the developer was prepared to request a detailed interconnection study at this time. In my comments at the January 14, 2003 prehearing conference, as well as in my ruling, I indicated that the process for developing these cost studies would mirror the process undertaken by SCE and the Tehachapi wind developers in this proceeding:

“...the utilities can only proceed with these studies once project developers have met with them, have agreed on a scope of study and schedule, and have allocated the costs of the study among the various project developers. Hence, the responsibility for moving forward expeditiously with these studies is clearly shared.”²

By letter dated March 4, 2003, Vulcan Power Company (Vulcan) requests that I consider, for at least one of those study options (“screen level evaluation”), approval of ratepayer funding for the studies: “Since transmission upgrades and/or constraint removal benefits the grid, utilities, shareholders, customers and developers and since FERC is also desirous of strengthening the grid, it makes sense that the constraint removal study costs be born by the system.”³

Vulcan's request for ratepayer funding of transmission cost studies is at odds with applicable tariff provisions. The tariff of the California Independent System Operator Corporation (CAISO) makes it clear that operators of new generating facilities seeking to interconnect into the CAISO-controlled grid must pay for the costs of all studies of the proposed interconnection.⁴ In addition, the

² *Id.*

³ March 4, 2003 Letter from Vulcan to Judge Gottstein, served on all parties in this proceeding and filed in the correspondence file.

⁴ See, in particular, § 5.7.3.2 of the CAISO Tariff, which provides: “Each New Facility Operator that submits and Interconnection Application will on the date of submission

Footnote continued on next page

tariffs of the utilities specify particular fees to be paid by small generators seeking to interconnect to the utilities' distribution systems. Specifically, Rule 21 to the tariffs of each of the utilities provides that applicants seeking to interconnect to each utility's distribution system shall pay a fee of \$800 for initial review of the application and \$600 for supplemental review of the application.⁵ The only exception to this fee requirement applies to net energy metered retail customers, a category that clearly does not include Vulcan or other potential developers of renewable power to be sold to the utilities.

Vulcan and others might argue that the "conceptual" studies for which they seek ratepayer funding are somehow different from the technical interconnection studies addressed in the CAISO and the Rule 21 tariff provisions. However, such an argument is unpersuasive. Vulcan and other developers should understand that participation in any of the study options outlined by the utilities in their solicitation is *entirely voluntary*. The purpose of the solicitation is to address the concern raised by Vulcan and others at the prehearing conference that renewables developers are subject to a "Catch 22," namely, they will not be able to develop their bids under the Renewable Portfolio Standard (RPS) procurement process if the utilities do not move forward expeditiously with project-specific cost studies. At SCE's suggestion, I directed all the utilities to

also provide a good faith deposit to the ISO." Also see, § 5.7.4.2(c) of the CAISO Tariff, which provides: "Each New Facility Operator shall pay the reasonable costs of all System Impact and Facility Studies performed by or at the direction of the ISO or the Interconnecting PTO" In this quoted language, "PTO" refers to the participating transmission owners, *i.e.*, the utilities.

⁵ See, § 3.1 of Rule 21 of each of utilities' Commission-approved tariffs. The Commission adopted Rule 21 in Decision 00-12-037.

proceed with a solicitation to potential developers of renewable resources, just as SCE had done for wind developers at Tehachapi. My intent was to make sure that other developers (besides those in the Tehachapi region) could move forward with identifying the transmission-related facilities and costs associated with their specific projects, without delay.

In anticipation of a large volume of requests for these studies, as developers plan for the RPS solicitation, I directed the utilities to plan accordingly “so that the studies can be completed within an accelerated time frame.”⁶ Nothing in my ruling was intended to modify existing procedures or tariff provisions for the development of such information for project developers. As with the Tehachapi conceptual study, the participating developers are expected to allocate the costs of these studies among them. However, it is their exclusive option to participate at all. If the developers do not believe that the information provided by any of the study options will be useful to them at this time, they should not participate.

Irrespective of the developers’ decisions to participate in these studies, by August 29, 2003, the utilities are required to provide the Commission with their proposal for a renewables transmission plan, based on the California Energy Commission’s (CEC) renewable generation assessment. As described in the attached scope of work, the utilities’ filings and the Commission’s study will present an informative, broad plan that will be based on the CEC’s identification of “a resource as being of a certain type (geothermal, wind, etc.), of a certain

⁶ January 2003 Ruling, p. 9.

capacity (MW), and in a general area.”⁷ While some of the studies requested by developers may be far enough along by this summer to provide information that could assist the utilities in making informed judgments for the renewables transmission plan, they were not solicited for that purpose.

With these clarifications, I affirm my January 29, 2003 ruling. Project developers may respond to the utilities’ solicitations accordingly.

Scope of Work for Renewables Transmission Study and Related Issues

By ruling dated February 26, 2003, I issued for comment a scope of work for the Renewables Transmission Plan required by Senate Bill (SB) 1038. Comments were filed on March 10, 2003 by each of the utilities.

Based on the comments and further consultation with Energy Division, I have made some modifications and clarifications to the scope of work issued on February 26, 2003. Attachment A reflects these changes.

In its comments, SCE makes three requests that go beyond the scope of my February 26 ruling, but warrant further comment. First, SCE requests the CEC to focus on the ultimate renewable resource development expected in a given region, rather than on two planning years (2005 and 2008) in its development of a renewable resource plan. Second, SCE requests that the CEC incorporate precise geographic references and mileage into its plan, to ensure that all participants have the same understanding of what constitutes “Tehachapi” for the purpose of this proceeding. Finally, SCE requests that this Commission clarify the definition of eligible resources under the renewables program with respect to geographic location.

⁷ Attachment A, p. 2.

With regard to the first two issues, I expect that other parties to this proceeding may share SCE's concerns and make similar requests of the CEC. CEC has clearly stated its intent to provide opportunities for public input into the development of its renewable resource assessment, and I encourage interested parties in this proceeding to avail themselves of those opportunities -- particularly as the CEC proceeds to further develop its scope of study.⁸

The third issue relates to the definition of an eligible in state-renewable electricity generation technology for the purpose of the renewables goal and procurement program established by SB 1038 and SB 1078. Among other things, an eligible facility must be "... located in the state or near the border of the state, with the first point of connection to the Western Electricity Coordinating Council (WECC) transmission system within the state."⁹ In its comments, SCE requests that the Commission clarify what the phrase "near the border" means for purposes of evaluating the eligibility of renewable resources outside the state.

It is my understanding that this issue will be addressed by the CEC in its implementation of the Renewables Portfolio Standard, with input from Commission collaborative staff. However, a final determination on this issue might not be made in time for the utility submittals or the Commission's final report on the renewables transmission plan to the Legislature. In the interim, the utilities should use their judgment in establishing any such geographic delineation for the purpose of the renewables transmission plan, in consultation

⁸ See CEC's January 29, 2003 letter in Attachment 1 to my February 26, 2003 ruling.

⁹Pub. Util. Code § 383.5, as amended by SB 1038, emphasis added.

with Energy Division. Should the CEC's final determination on this issue differ from the geographic scope of the transmission study submitted to the Legislature on December 1, 2003, the Commission will require the utilities to supplement the report, accordingly.

As with other aspects of the utilities' proposed transmission plan, interested parties may provide input on this issue at several points in the development process. As discussed in my February 26, 2003 ruling, there will be a stakeholder meeting hosted by the California Independent System in July 2003 to obtain public input on the utilities' proposed renewables transmission plans before they are submitted to the Commission. All parties will also have an opportunity to comment on the utility proposals after submittal, and to participate in a public workshop hosted by Energy Division before the Commission issues a draft decision.

IT IS RULED that:

1. Vulcan Power Company's March 4, 2003 request for ratepayer funding of the studies solicited by the utilities at my direction is denied. As discussed in this ruling, participation by project developers in any of the study options outlined by the utilities in their solicitations is entirely voluntary.

2. Attachment A sets forth the scope of work for the utility filings and the Commission's submittal to the Legislature on the SB 1038 renewables transmission plan.

Dated March 27, 2003, at San Francisco, California.

/s/ ANGELA K. MINKIN for

Meg Gottstein

Administrative Law Judge

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Scope of Work For SB 1038 Renewable Transmission Study

The Purpose of the Study

Senate Bill (SB) 1038 requires the California Public Utility Commission to provide a transmission plan for renewable electricity generating facilities by December 1, 2003. The purpose of this study is to present information to the Legislature about transmission upgrades that may be needed to interconnect and deliver new potential renewable generation, depending upon the results of the renewable power procurement process noted below. The study will focus on identifying the scope and estimated costs of potential new transmission facilities, potential new line routes, new substation locations and, as appropriate, critical issues that might affect the development of those facilities. It is recognized that the scope and cost estimates of any potential new transmission facilities or upgrades identified in this process can only be as detailed as the resource development information provided by the CEC and the resource developers, and will be further dependent upon the order and timing of actual interconnections sought by developers of renewable energy projects.

Scope of Work

The screening level study will examine how the utilities' transmission network may need to be expanded to accommodate the potential renewable generation identified in the California Energy Commission's (CEC) July 1, 2003 preliminary renewable resource assessment. In cases where there is congestion between the point of insertion into the grid and the load center, the study will also identify the facilities that may be needed to relieve the potential congestion.

Under companion legislation SB 1078, which establishes the Renewable Portfolio Standard (RPS) Program, the utilities are required to develop procurement plans that include a solicitation of renewable generation resources to meet the statutory goals. However, those procurement plans are currently under development, and the results of the first solicitation will not be available in time for inclusion in the Commission's report to the Legislature. Therefore, the SB 1038 transmission study will not, by definition, take a position on which potential renewable generation facilities might actually be developed. The study will present a preliminary renewable transmission expansion plan that will require further refinements, once the results of the RPS solicitations are known, and specific interconnection studies have been undertaken. However, it will present an informative, broad plan for potential, expansions to the transmission grid in response to the CEC's preliminary assessment, as described further below. The report will also delineate a set of system upgrades related to renewable resource development that appear most likely to be required over the next five years, based on the geographic location and magnitude of resource development projected by the CEC, and describe what affirmative steps should be taken now to plan for them.

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The following sections provide further direction on the scope of work for the utilities' screening level study and the Commission's report to the Legislature:

1. The utilities shall each formulate a plan for connecting to the electrical network the clusters of new renewable resource generation identified by the CEC. The plans will provide for phased construction, e.g., single 230 kV circuit on double circuit towers in 2005, second 230 kV circuit strung in 2008, as appropriate to accommodate the renewable generation development identified in the CEC's assessment. Each utility's plan shall include all the transmission facilities, including new lines and substations and upgrades to existing lines and substations, to transmit the potential renewable power from the points of interconnection of the power sources to the utility's transmission network to the load centers. The transmission will start with the point of interconnection for insertion into the grid. ISO reliability criteria will be applied to mitigate the resulting potential transmission congestions, that is, as described further in #3 below, in cases where there is congestion between the point of insertion into the grid and the load center, the utilities will identify the potential congested transmission facilities and identify the potential, cost-effective facilities needed to relieve the congestion. Such measures will include remedial action schemes rather than redundant circuits for mitigating the effects of forced line outages.¹ The utilities shall jointly delineate a set of system upgrades that appear the most likely to be required over the next five years, based on the geographic location and magnitude of renewable resource development projected by the CEC, and describe what affirmative steps should be taken now to plan for them, e.g., land acquisition, preliminary environmental assessments, among others.
2. In developing their potential transmission upgrades, the utilities will utilize the base case transmission plans currently being developed through the ISO's grid planning process, and assess modifications to the base plan in response to the CEC's July 1, 2003 preliminary renewable resource assessment. In that assessment, the CEC will identify for the years 2005 and 2008 new renewable resources in terms of general location and megawatt (MW) capacity. The report will most likely identify a resource as being of a certain type (geothermal, wind, etc.), of a certain capacity (MW), and in a general area. For the purpose of formulating the transmission plan, the utilities will need to make certain assumptions. For instance, if the preliminary

¹ In using the term "cost effective", we expect the utility to identify the electrical means of interconnecting the renewable resources that is, in and of itself, cost-effective—i.e., the utility should not propose a new 500 kV transmission line if a new 230 kV line would suffice, taking into account the possibility that further resources will come on line in that area in the future. In addition, if there is more than one electrical means of interconnecting the renewable resource to relieve congestion, the utility should present cost range estimates for each of them, indicating which approach (or approaches) it believes will address the congestion problem at the lowest cost.

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report specifies 500 MW of geothermal power within a 100-mile radius of a given location, the plan could assume two 200 MW power plants and one 100 MW power plant at different points on the 100-mile periphery of the location. Similarly, assumptions will have to be made regarding the size and location of the wind farm substations at the first point of interconnection to the transmission network. These assumptions will be based on the utilities' experience with existing facilities, including the responses to their solicitations to renewable generation developers for interconnection studies and the evidentiary record developed in this proceeding (e.g., the Tehachapi transmission project).

3. For each renewable generation cluster, the utilities are to identify possible transmission congestion beyond the first point of interconnection that would result if all of the identified renewable generators in such cluster won bids and signed contracts to provide "must-take" energy under the RPS Program. Potential transmission upgrades that may eliminate the congestion will be identified. For congestion that also involves new, non-renewable generators, different levels of transmission upgrades should be identified assuming a) the energy from all renewable generators in the cluster is "must-take" and the upgrade only eliminates congestion for such renewable energy; and b) the upgrade eliminates congestion for all generation on the relevant transmission facilities.²
4. For each identified transmission project, the utilities will provide the transmission interconnection voltage, approximate routing and substation modifications in general terms, along with conceptual engineering design information, including geographical maps and simplified electric diagrams. This information will be formulated based on the utility's engineering experience and will not require power flow network simulations. The utilities will also include cost estimates for each project at the conceptual level based on the utility's experience for each major category of project cost, e.g., conductor and breakers. In addition, the utilities will provide cost ranges for land acquisition, mitigation of anticipated environmental impacts, and other costs, as appropriate. Discussion should be provided where more than one transmission upgrade alternative is identified, or where multiple stages are warranted. Discussion should be provided regarding possible right-of-way issues and potential environmental issues encountered with the transmission line routing.
5. If the applicable developers allow the utilities to release the information, then the utilities are expected to provide the information outlined in #2-#4 above for transmission projects related to renewable generation that have already been studied in accordance with the

² An evaluation of how the market may value congestion, or how the market could manage potential congestion (as an alternative to expanding transmission) is beyond the scope of this initial study. However, this type of evaluation may be required in future refinements of the transmission plan, once the winning renewables bidders are identified.

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ISO's and utility interconnection tariffs. This information may be presented in appendices to the transmission study.

6. The utilities may provide some of the information required under this Scope of Study under Public Utilities Code § 583, as appropriate. However, the utilities are advised that Commission's report to the Legislature will need to contain project cost ranges for each identified transmission expansion project. The utilities should work with Energy Division in developing a format for presenting that information in a public version of their potential transmission upgrades and in the December 1, 2003 Commission report, possibly using a format similar to the one developed for the cost information submitted in each monthly status reports.
7. Working with Energy Division, the utilities will develop a standardized table of contents and consistent formats for tables to include in their presentation of transmission upgrade information to the Commission.

(END OF ATTACHMENT A)

CERTIFICATE OF SERVICE

I certify that I have by mail, and by electronic mail, to the parties to which an electronic mail address has been provided, this day served a true copy of the original attached Administrative Law Judge's Ruling Clarifying Purpose of Transmission Cost Studies, Addressing Scope of Work for Renewables Transmission Study, and Related Issues on all parties of record in this proceeding or their attorneys of record.

Dated March 27, 2003, at San Francisco, California.

/s/ TERESITA C. GALLARDO

Teresita C. Gallardo

N O T I C E

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